

حمل الآن

مجاناً وحصرياً

المراجعة رقم (1)

اختبار شهر ابريل



SELF-ASSESSMENTS

on Concept (4.1)

Self-Assessment 11

On Lesson 1

1 (A) Correct the underlined words :

1. Planets revolve in fixed orbits around Earth due to the gravity between them. (.....)
2. Gravity keeps the moon revolve in orbit around itself. (.....)
3. The gravity of the Sun affects the ocean tides. (.....)

(B) Give a reason for the following :

After the skydivers jump from a plane, they always move toward the ground.

.....
.....

2 (A) Put (✓) or (X) :

1. Earth pulls planets to revolve around the Sun. ()
2. Earth orbits the Sun due to gravity between them. ()
3. Gravity affects the movement of objects. ()

(B) What happens to ...?

The moon if the gravity of Earth disappears.

.....
.....

3 Look at the following picture, then put (✓) or (X) :

1. There is no gravity between Earth and the moon. ()
2. The force of gravity causes the moon to revolve in its orbit around Earth. ()



Self-Assessment 12 till Lesson 2

1 (A) Put (✓) or (X) :

1. In space, there is no gravity between the Sun and planets. ()
2. Gravity of the moon is smaller than that of Earth because it has smaller mass. ()
3. A skydiver moves down toward the ground because gravity changes his mass. ()

(B) What happens if ...?

A magnet is placed near to some paper clips.

.....

.....

2 (A) Complete the following sentences using the words below :

(magnetism – more – gravity)

1. The gravity of Earth is than that of the moon.
2. The occurrence of attraction or repulsion forces between magnets is due to in both of them.
3. Earth pulls objects by the force of

(B) Give a reason for the following :

Paper clips are pulled toward the magnet.

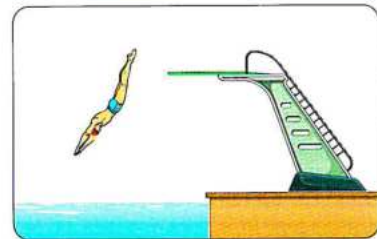
.....

.....

3 The opposite figure shows a swimmer that jumps from a stand into a swimming pool. Choose the correct answer :

The force that attracts the swimmer towards the water surface is known as force.

- a. pushing
- b. gravity
- c. magnetism
- d. repulsion



Self-Assessment 13

till Lesson 3

1 (A) Write the scientific term of each of the following :

1. The force that attracts paper clips to the magnet. (.....)
2. It is a pull or push that is applied to an object. (.....)
3. The force that pulls all objects on Earth toward its center. (.....)

(B) Give a reason for the following :

Planets revolve around the Sun in fixed orbits.

.....

.....

2 (A) Correct the underlined words :

1. Earth attracts the Sun to move around it. (.....)
2. If the mass of the moon decreases its gravity force will increase. (.....)
3. The gravity force of Earth to a person in a flying air plane is equal to that when the same person stands on the ground. (.....)

(B) What happens to ...?

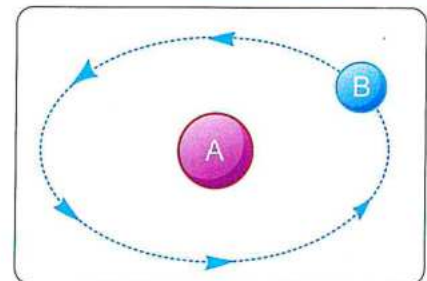
The gravity force of Earth if its mass decreases.

.....

.....

3 Look at the opposite model that represents two bodies in the solar system, then choose the correct answer :

- a. (A) is Earth and (B) is the Sun.
- b. (A) is the moon and (B) is Earth.
- c. (A) is Earth and (B) is the moon.
- d. (A) is the moon and (B) is the Sun.



Self-Assessment 14 till Lesson 4

1 (A) Complete the following sentences :

1. The direction of force opposes the direction of a body moves through air.
2. Paper clips are attracted to the magnet by a force called
3. A parachute in air is affected by that acts against the force of Earth.

(B) What happens if ...?

A person uses the brake of a moving bicycle.

.....

2 (A) Choose the correct answer :

1. decreases the speed of a parachute during landing.

a. Gravity force	b. Air resistance
c. Magnetism	d. Electric force
2. The gravity of affects the ocean tides.

a. Earth	b. the Sun	c. the moon	d. the magnet
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3. Gravity force depends on the of an object.

a. mass	b. temperature	c. height	d. color
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(B) Give a reason for the following :

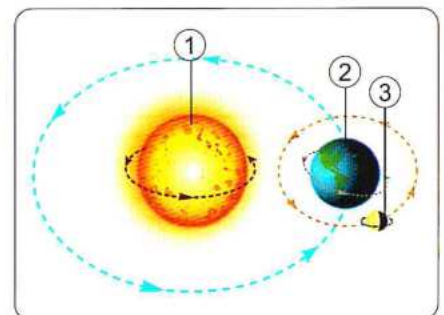
The atmosphere is kept around Earth.

.....

3 Look at the opposite figure, then complete the following sentences using the words below :

(the Sun – the moon – Earth – oval)

- a. Body number (1) is called
- b. Body number (2) is called
which revolves around number (1) in orbit.
- c. Body number (3) is called



Self-Assessment 15 till Lesson 5

1 (A) Correct the underlined words :

1. The gravity of Earth pulls all planets toward its center. (.....)
2. The planets revolve around the Sun in fixed rectangular orbits. (.....)
3. When the mass of an object increases, its attraction force decreases. (.....)

(B) Give a reason for the following :

The Sun is the only center of motion in the solar system.

.....

2 (A) Put (✓) or (X) :

1. The moon revolves around Earth by the effect of air resistance. ()
2. The force of friction always affects against the movement of an object. ()
3. Skydiver opens his parachute during landing to increase the speed of falling. ()

(B) Cross out the odd word :

Friction – Gravity – The Sun – Air resistance. (.....)

3 Choose from column (B) what suits it in column (A) :

(A)	(B)
1. Force	a. is the force of attraction between objects that have mass.
2. Magnet	b. is the center of the solar system.
3. The Sun	c. attracts metal objects.
4. Gravity	d. is a pull or push that affects an object.
	e. is the path in which planets revolve around the Sun.

1. 2. 3. 4.

Model Exam on Concept (4.1)

Total mark

15

1 (A) Complete the following sentences :

(5 marks)

1. If the mass of the moon increases more than its real mass, its gravitational attraction will
2. Magnet can attract some objects by a force called
3. A parachute in air is affected by that acts against the force of Earth.
4. The Sun is located at the center of

(B) What happens if ...?

A metal ball and a feather are falling down from a tower.

.....
.....

2 (A) Choose the correct answer :

(5 marks)

1. A table stands on the ground needs to move.
a. sunlight b. mass c. force d. air
2. Which of the following objects has the least attraction force ?
a. The moon. b. Earth. c. The Sun. d. The magnet.
3. is a factor that acts against gravity force.
a. Magnetism
b. Mass of an object
c. Air resistance
d. Shape of an object
4. The speed of Earth's revolution around the Sun is nearly km per hour.
a. more than 100,000
b. more than 200,000
c. less than 100,000
d. less than 50,000

(B) Give a reason for the following :

The force of gravity has an important role in the solar system.

.....
.....

1 (A) Put (✓) or (X) :

(5 marks)

1. Earth's gravity pulls objects toward the center of Earth. ()
2. Magnetism is a type of friction force. ()
3. There is no air in space, so air resistance slows down the movement of objects through space. ()
4. The scientist Nicolaus Copernicus stated that Earth revolves around the Sun. ()

(B) Give a reason for the following :

Gravity of Earth is greater than gravity of the moon.

.....
.....

2 (A) Complete the following sentences :

(5 marks)

1. The gravity of the moon affects the phenomenon of ocean
2. A person can control the speed of his bike by using to slow down its movement.
3. The force that keeps all planets around the Sun is called
4. When the distance between the moon and Earth increases, the gravitational attraction between them

(B) What happens if ...?

You throw two iron balls have the same mass from the same height.

.....
.....

3 (A) Write the scientific term of each of the following :

(5 marks)

1. The force by which metals are attracted or pulled to a magnet. (.....)
2. The tool that is used by skydiver to slow his drop. (.....)
3. The force that opposes the motion of a body across a solid or liquid or gas. (.....)
4. The effect that pulls or pushes an objects to make it moves. (.....)

(B) Correct the underlined word :

Planets revolve around the Earth due to the gravity between them. (.....)

1 (A) Complete the following sentences :

(5 marks)

1. The moon moves around due to gravity.
2. Magnet can attract some objects by a force called
3. The force of gravity is force and it changes the of movement.
4. The force of gravity is and acts on all objects in the same way.

(B) What happens to ...?

The planets if the Sun has no gravity.

.....

2 (A) Put (✓) or (X) :

(5 marks)

1. Air resistance is a type of friction force. ()
2. Friction force opposes the movement of an object. ()
3. The direction and mass of an object are changed due to gravity. ()
4. When using the bicycle brake, the bicycle stops due to the friction force between the brake and the tires. ()

(B) Correct the underlined word :

The gravity of the Sun affects the ocean tides.

(.....)

3 (A) Choose from column (B) what suits it in column (A) :

(5 marks)

(A)	(B)
1. Magnetism	a. is the force of attraction between objects that have mass.
2. Gravity	b. is a pull or push that affects an objects.
3. Force	c. is the change of an object location due to force.
4. Air resistance	d. is the force between two magnets or between the magnet and an object.
	e. is the force that opposes the movement of an object through air.

1.

2.

3.

4.

(B) Give a reason for the following :

The moon revolves around Earth in a fixed orbit.

.....

SELF-ASSESSMENTS

on Concept (4.2)

Self-Assessment 16 On Lesson 1

1 (A) Choose the correct answer :

1. The imaginary line that passes from the north pole to the south pole through Earth's center is called
a. the day. b. the axis. c. the night. d. the pole.
2. The orbiting of an object around another object is called
a. revolution. b. spinning. c. rotation. d. speed.
3. In late afternoon, the Sun appears in the direction in the sky.
a. east b. west c. north d. south

(B) Give a reason for the following :

The Sun appears as it is moving from east to west.

.....
.....

2 (A) Put (✓) or (X) :

1. Stars and planets appear to move in the sky due to revolution of Earth around the Sun. ()
2. Earth takes a whole day to make one complete turn around the Sun. ()
3. The half of Earth that faces the Sun has day. ()

(B) What happens to ...?

The part of Earth that doesn't receive sunlight.

.....
.....

3 Complete the following sentences using the words below :

(the center of the sky – Earth – east – axis – 24 hours)

1. Occurrence of day and night is due to the rotation of on its
2. Earth completes one rotation on its axis once every
3. In the early morning the Sun appears in the while at noon it appears in

Self-Assessment 17 till Lesson 2

1 (A) Put (✓) or (X) :

1. The Earth rotates on its axis faster than Jupiter. ()
2. Rotation of Earth around its axis causes the cycle of day and night. ()
3. The Earth has an imaginary vertical axis. ()

(B) What happens if ...?

Earth doesn't revolve around the Sun.

.....

2 (A) Complete the following sentences :

1. The planets of the solar system rotate on their at different
2. In the early morning the Sun would be at direction in the sky.
3. The orbiting of the Earth around the Sun is called , while the spinning of Earth on its is called rotation.

(B) Give a reason for the following :

Occurrence of the cycle of seasons on Earth.

.....

3 Choose from column (B) what suits it in column (A) :

(A)	(B)
1. Day and night phenomenon	a. occurs due to the movement of the Sun in the sky.
2. Four seasons phenomenon	b. occurs when Earth completes one cycle on its axis.
3. Formation of shadows	c. occurs due to the revolution of the moon around Earth.
	d. occurs due to the revolution of Earth around the Sun.

1.

2.

3.

Self-Assessment 18 till Lesson 3

1 (A) Put (✓) or (X) :

1. Hubble Space Telescope and Galileo binoculars are used to see distant space objects in more details. ()
2. A galaxy is formed of a group of stars, planets and gases held together by gravity. ()
3. The Sun provides Earth with thermal energy only. ()

(B) Give a reason for the following :

The appearance of the stars as they are moving across the sky.

.....

2 (A) Choose from column (B) what suits it in column (A) :

(A)	(B)
1. The moon	a. orbits around Earth.
2. The universe	b. is the only star in the solar system.
3. The Sun	c. is the wide space that contains celestial objects.
	d. explained how the Sun converts matter directly into energy.

1.

2.

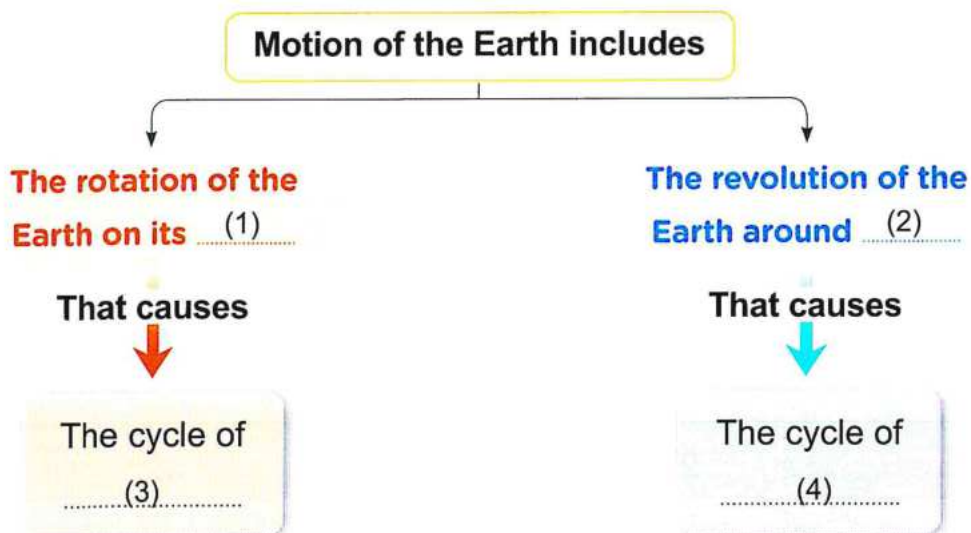
3.

(B) What happens if ... ?

The Sun move farther away from Earth. (According to the thermal and light energies)

.....

3 Complete the following diagram :



Self-Assessment 19

till Lesson 4

1 (A) Put (✓) or (X) :

1. Earth revolves around the Sun every 24 hours. ()
2. Celestial bodies like planets and moons make their own light. ()
3. Stars closer to the north and south poles move slightly in the sky. ()

(B) Give a reason for the following :

We see different constellations in winter than in summer.

.....

.....

2 (A) Correct the underlined word :

1. A constellation consists of a group of planets that form a pattern. (.....)
2. Every night, new stars appear from west. (.....)
3. Jupiter revolves around the moon in fixed orbit. (.....)

(B) What happens if ...?

A group of stars form a pattern or look like a certain shape in the sky.

.....

.....

3 Complete the following sentences using the words below :

(vertical – Orion – Earth – west)

1. The Sun appears as it rises in east direction and set in direction.
2. The axis of planet is
3. The constellation that looks like a hunter is called

1 (A) Choose the correct answer :

(5 marks)

- The group of stars that make a certain shape in the sky is called a/an
a. solar system. b. universe. c. constellation. d. ecosystem.
- are celestial bodies that make their own light.
a. Moons and planets b. The Sun and stars
c. The Sun and planets d. Earth and the Sun
- All the following sentences describe the solar system, except
a. it contains the Sun and the eight planets.
b. its planets revolve around the Sun in fixed orbits.
c. its planets rotate on their axes at different speeds.
d. it contains Earth, Jupiter and the Sun only.
- Ancient Egyptians invented the which depends on the movement of to know the time of the day.
a. balance – time b. sundial – time
c. telescope – distance d. sundial – shadows

(B) Give a reason for the following :

Earth and the moon are not considered as stars.

.....
.....

2 (A) Write the scientific term of each of the following :

(5 marks)

- The phenomenon that occurs due to the rotation of Earth on its axis. (.....)
- The scientists who are responsible for making amazing realistic show in planetarium. (.....)
- A dark celestial body that reflects sunlight and orbits Earth. (.....)
- The movement of an object around another object. (.....)

(B) Cross out the odd word :

- Earth – Jupiter – The Sun – The moon. (.....)
- Second crescent – First gibbous – Second quarter – Hubble Space Telescope. (.....)

3 (A) Complete the following sentences using the words below :
(projector – Jupiter – sundial – Orion)

(5 marks)

1. The fastest planet on its axis is
2. Ancient Egyptians used to know the time.
3. Planetarium has a to display pictures on its ceiling.
4. Constellation is one of the most famous constellations in the sky.

(B) Look at the following figures then answer the following questions below :

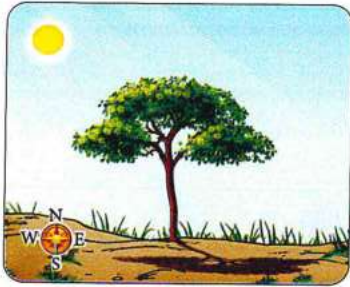


Figure (A)

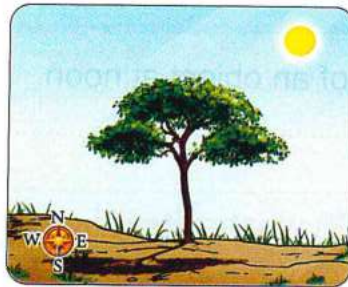


Figure (B)

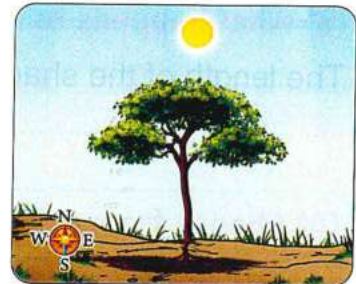


Figure (C)

1. The shadow of the tree will be longer at
 a. figure (A) only. b. figure (C) only.
 c. figure (B) and figure (C). d. figure (A) and figure (B).
2. The time at which figure (C) illustrates is
 a. 12 p.m. b. 10 a.m. c. 2 a.m. d. 3 p.m.
3. At noon the Sun is located above us during its movement that can be represented by
 a. figure (A) only. b. figure (C) only.
 c. figure (B) and figure (C). d. figure (A) and figure (B).
4. The correct order of these figures that shows the rising of the Sun till it sets is
 a. A → B → C. b. C → B → A.
 c. B → C → A. d. A → C → B.

Model Exam **2**

on Concept (4.2)

Total mark

15

1 (A) Put (✓) or (X) :

(5 marks)

1. Earth rotates on its axis in clockwise direction. ()
2. Lengths of shadows of different objects don't change during the day. ()
3. The Sun is the biggest star in the universe. ()
4. At crescent phase, a part of the moon edge appears bright. ()

(B) What happens to ...?

The length of the shadow of an object at noon.

.....

2 (A) Choose from column (B) what suits it in column (A) :

(5 marks)

(A)	(B)
1. Jupiter	a. is a human-made satellite.
2. International Space Station	b. is the only star in the solar system.
3. Earth	c. is the fastest planet on its axis.
4. The Sun	d. is the planet that completes one cycle on its axis in 24 hours.
	e. is the path in which planets revolve around the Sun.

1. 2. 3. 4.

(B) Give a reason for the following :

Astronauts cannot be sent to explore the stars.

.....

3 (A) Write the scientific term of each of the following :

(5 marks)

1. An imaginary line that passes through the two poles of Earth. (.....)
2. It is a protective layer around the Earth that allows some light waves to pass and block others. (.....)
3. A phenomenon occurs due to Earth's revolution around the Sun. (.....)
4. The Sun and the eight planets revolving around it. (.....)

(B) Mention the use of :

Telescope :

كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



حمل الآن

مجاناً وحصرياً

المراجعة رقم (2)

اختبار شهر ابريل



Concept 4.1 Effects of Gravity

1

Summary of

Concept 1

Gravity is the force of pulling (attraction) between objects that have **mass**.

It is an invisible force that acts on all objects on or near Earth.

Gravity

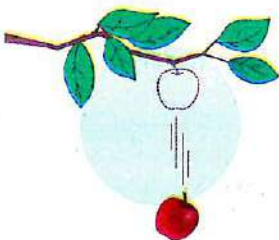
If there is no gravity, we will float like astronauts into space.

Gravity changes the direction of moving objects.

Examples of Gravity Forces

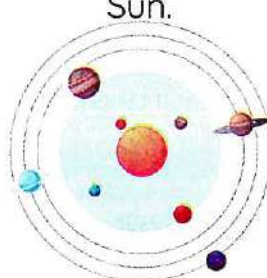
1. The Earth's Gravity

It pulls objects with mass down toward the center of the Earth.



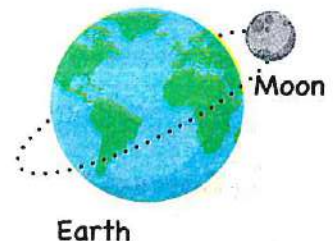
2. The Sun's Gravity

It keeps the planets in fixed orbits around the Sun.



3. The Moon's Gravity

It affects the ocean tides.



Factors Affecting Gravity between Two Objects

1

The mass of the two objects

(Gravity increases as the mass of the objects increases, and vice versa.)

2

The distance between the two objects

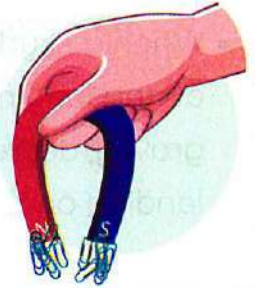
(Gravity increases as the distance between the two objects decreases, and vice versa.)

Force: It is a **pull** or **push** applied to an object to make it move.

Types of Forces

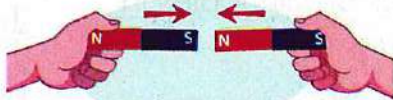
1 Magnetism

- It is the force of **attraction** or **repulsion** between two magnets or between a magnet and some objects.
- Magnets have an **invisible** force that cannot be seen, known as magnetism.



The attraction force of the magnet (Pulling Force)

- 1 A magnet pulls another magnet.



- 2 A magnet attracts some metal objects made of iron, cobalt, and nickel.



The repulsion force of the magnet (Pushing Force)

A magnet pushes (repels) another magnet.



2 Friction

- It is a force that opposes the motion of a body across a solid surface or through a gas or liquid.



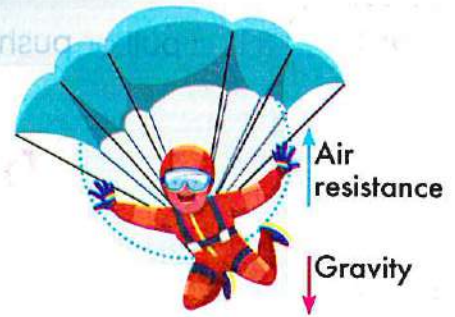
1 It arises between two objects touching each other.

2 It acts in the **opposite** direction of the object's motion.

3 It slows down the object's movement.

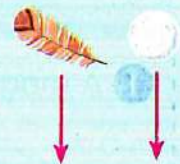
3 Air Resistance

- It is a type of friction force.
- It is a force that **opposes** the movement of an object as it passes through the air.
- When a skydiver opens his parachute during landing, air resistance acts against gravity, decreasing the speed of his landing on Earth.



If there is no air resistance:

- All bodies will reach the ground at the same time because the force of gravity is constant and acts on all bodies in the same way.



4 Wind Force

- Wind pushes the blades of a wind turbine, causing their movement.



Solar System

- » Our solar system consists of the Sun and eight planets that revolve around it.
- » Each planet revolves around the Sun in a fixed path called an orbit, which has an elliptical (oval) shape.
- » **Nicolaus Copernicus** stated that Earth revolves around the Sun.
- » Earth revolves around the Sun at a speed that nearly equals **107,000** km per hour.



2

Definitions of Concept 1

Gravity	- It is the force that pulls objects with mass toward the center of the Earth. - It is the force of attraction that exists between objects that have mass.
Force	It's a pull or a push that is applied to an object.
Motion	It is a change in the position of an object compared to another object.
Magnetism	It's the force of attraction or repulsion between two magnets or between a magnet and some objects.
Moon	It is a celestial body that orbits the Earth in a fixed orbit.
Friction	It's a force that opposes the motion of a body across a solid surface or through a gas or liquid.
Air resistance	It's a type of friction force that opposes the movement of an object as it passes through the air.
Law of Motion	The force of gravity is constant and acts on all objects in the same way.

3

Give Reasons For...

Concept 1

- 1 **The moon is attracted to the Earth.**
 - Due to the gravitational force of the Earth.
- 2 **Astronauts seem to float into space.**
 - Because there is no gravity in space.
- 3 **Paperclips are pulled toward a magnet.**
 - Due to the pulling force of the magnet.
- 4 **Air resistance affects the movement of an object that falls from a height.**
 - Because air resistance pulls objects backward against the force of gravity, slowing down the movements of objects.
- 5 **The force of gravity has an important role in the solar system.**
 - Because the Sun's gravity keeps the planets revolving in fixed orbits around the Sun.
- 6 **The gravity between two objects depends on the distance between them.**
 - As the distance between two objects increases, the gravity between them decreases, and vice versa.
- 7 **Earth's gravity is greater than the moon's gravity.**
 - Because Earth has a greater mass than the moon.
- 8 **The bike stops after a while when you stop pedaling.**
 - Due to the friction between the tires and the ground, the bike slows down until it stops.
- 9 **The skydiver opens his parachute during landing.**
 - To increase air resistance to the parachute and slow down his drop.
- 10 **The Sun is considered the center of the solar system.**
 - Because the Sun has the greatest gravity in the solar system.
- 11 **You always land on the ground when you jump up.**
 - Because the gravity pulls you toward the Earth's center.
- 12 **Planets revolve around the Sun in fixed orbits.**
 - Due to the gravity around the Sun.

4

What Happens...?

Concept 1

1 If the distance between the Earth and the moon increases to twice?

- The gravity between the Earth and the moon decreases, and the moon might float into space.

2 If the mass of the moon becomes twice its real mass?

- The gravity between the moon and the Earth increases, so the moon might crash into the Earth.

3 To the moon if there's no gravity between the moon and the Earth?

- The moon might float off into space.

4 If the mass of the moon decreases to half?

- The gravity between the Earth and the moon decreases, and the moon might float into space.

5 To the ball when it is thrown up into the air?

- Gravity pulls it down, changing its direction.

6 To the planets if the Sun has no gravity?

- The planets float off into space and leave their orbits around the Sun.

7 If a magnet is placed near some paperclips?

- The magnet attracts the paperclips.

8 If a skydiver opens his parachute during landing?

- Air resistance increases, so the speed of his drop decreases.

9 If a metal ball and a feather fall down from a tower?

- The metal ball reaches the ground first.

5

Exams on

Concept 4.1

Model Exam 1

Q1. (A) Choose the correct answer:

- The gravity force depends on the of the object.
a. mass b. temperature c. shape d. color
- In the solar system, planets stay in their orbits due to the gravity of
a. the moon b. the Sun c. Mars d. Earth
- Magnetism is a force that attracts objects made of the following materials, except the
a. nickel b. cobalt c. iron d. wood

(B) What happens to:

- The moon if there's no gravity between the moon and Earth?

Q2. (A) Put (✓) or (x):

- Air resistance opposes the movement of objects through air. ()

(B) Write the scientific term:

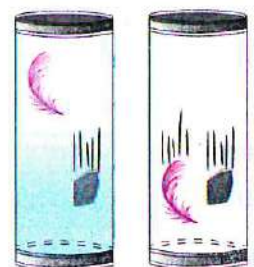
- It is the force of attraction that exists between objects that have mass. ()
- It is the law which states that the force of gravity is constant and acts on all objects in the same way. ()

Q3. (A) Cross out the odd word:

- Magnetism - Gravity - Friction - Earth ()

(B) Imagine that jar (A) contains air, while jar (B) doesn't contain air.**Then, answer the following:**

- Complete:** In jar (A), the feather is affected by air resistance than the stone.
- Why are the feather and the stone moving with same speed in jar (B)?



Jar A

Jar B

Model Exam 2

Q1. (A) Choose the correct answer:

- 1 The moon has greater gravity than that of
 a. Earth only b. the Sun c. a magnet d. Earth and the Sun
- 2 A person can exert a weak force to move (Giza 2023)
 a. a big truck b. a real car
 c. a very big rock d. a toy car
- 3 The Earth attracts objects towards
 a. its center b. the sky c. the moon d. the Sun

(B) What happens if:

- A skydiver opens his parachute during landing?

Q2. (A) Put (✓) or (x):

- Gravity only affects objects in motion. ()

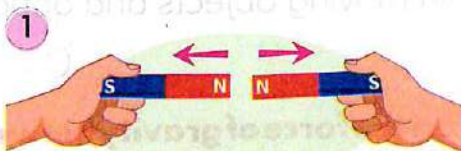
(B) Complete the following sentences:

- 1 is a pull or push that is applied to an object.
- 2 Earth revolves around the Sun in the shape of an orbit.

Q3. (A) Correct the underlined word:

- Friction force acts in the same direction of the object's motion.
 (.....)

(B) Observe the following figures, then mention if the acting force is attraction or repulsion:



Model Exam 3

Q1. (A) Choose the correct answer:

1. _____ is a factor that acts against the force of gravity.
 - a. Magnetism
 - b. The mass of an object
 - c. Air resistance
 - d. The shape of an object
2. The orbit that each planet revolves in around the Sun has _____ shape.
 - a. a circular
 - b. an oval
 - c. a zigzag
 - d. a rectangular
3. The solar system consists of _____.
 - a. the Sun and moon only
 - b. the Sun and a group of planets
 - c. the Sun and Earth only
 - d. a group of planets only

(B) What happens to:

1. Planets of the solar system if the Sun has no gravity?

Q2. (A) Put (✓) or (x):

1. A magnet can push the objects which are made of some metals, such as iron. ()

(B) Complete the following sentences:

1. When a skydiver opens his parachute, his landing velocity _____.
2. _____ lies in the center of the solar system.

Q3. (A) Correct the underlined word:

1. Gravity is the force that slows down moving objects and opposes their motion. (_____)

(B) Mention the two factors that affect the force of gravity between two objects.

1. _____
2. _____

Model Exam 4**Q1. (A) Choose the correct answer:**

- Magnetism is a kind of force that involves
 a. repulsion only b. attraction only
 c. repulsion and attraction d. visible and invisible forces
- The gravitational force of an object as its mass increases.
 a. increases b. decreases c. equals zero d. doesn't change
- The skydiver in the sky is affected by
 a. gravity only b. air resistance only
 c. magnetism d. gravity and air resistance

(B) What happens if:

- The distance between the moon and Earth increases to its twice?
-

Q2. (A) Cross out the odd word:

- Cobalt – Wood – Nickel – Iron (.....)

(B) Complete the following sentences:

- An astronaut floats in space due to the absence of
- The attraction force between the Earth and the Sun is than that between the Earth and the moon.

Q3. (A) Put (✓) or (X):

- The Earth's gravity changes the direction and mass of moving objects. ()

(B) Which one of the following objects will reach the ground first on dropping them from a tower? And why?

.....

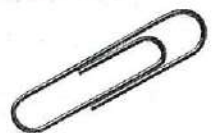
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Object 1



Object 2

Model Exam 5

Q1. (A) Choose the correct answer:

- The materials that are attracted to the magnet include
 a. iron and nickel b. aluminum and copper
 c. copper and silver d. silver and gold
- The direction of Earth's gravity is always toward the
 a. the center of the moon b. the poles of the Earth
 c. the sky of the Earth d. the center of the Earth
- A table standing on the ground needs to move.
 a. sunlight b. mass c. a force d. air

(B) Give a reason for:

- The speed of your bike decreases when you stop pedaling.
 (.....)

Q2. (A) Correct the underlined word:

- Objects move down toward the ground due to the effect of magnetism.
 (.....)

(B) Write the scientific term:

- He is a scientist that proved that the Sun is the center of our solar system.
 (.....)
- It is the force that opposes the movement of an object across a solid surface, liquids, or gases.
 (.....)

Q3. (A) Put (✓) or (x):

- Earth revolves around the moon at a speed that nearly equals 107,000 km per hour.
 (.....)

(B) Look at the following figure, then complete:

- Force (A) is called
- Force (B) is called



Concept 4.2 Patterns of Motion in the Sky

1 Summary of Concept 2

Rotation

It is the spinning of an object on its axis.

Revolution

It is the orbiting of an object around another object.

Cycle

It is a series of events that are repeated in the same order.

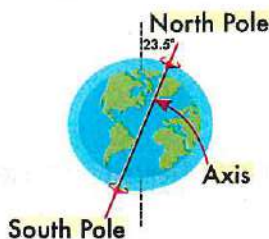
Earth's axis

It is an imaginary line passing through the North Pole and South Pole of Earth.

Earth has two motions:

1 Earth rotates around its axis. (Takes one day)

- Earth rotates counterclockwise on its **vertical axis** at a very high speed.
- Earth is slightly **tilted** on its axis, where the angle of tilt changes throughout the year.

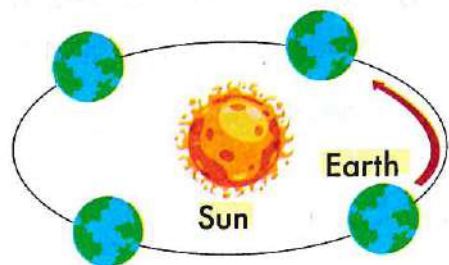


Earth's rotation on its axis makes:

- 1 The cycle of day and night occur.
- 2 The Sun, planets, and stars appear to move across the sky.
- 3 Shadows of objects move throughout the day.

2 Earth revolves around the Sun in an orbit. (Takes one year)

- Earth's path around the Sun is **elliptical (oval)**.



Earth's revolution around the Sun causes:

- The cycle of four seasons.

NOTE:

- We can't feel the Earth's spinning on its axis, as we move at the same speed as the Earth's rotation on its axis.

Shadow:

- » You can observe shadows of objects moving throughout the day.
- » The factors that affect the length and angle of a shadow:
 - The position of the Sun.
 - The amount of sunlight that reaches the Earth during different seasons.

	In the early morning or in late afternoon	At noon
The Sun's position	The Sun is low in the sky (in the east or west).	The Sun is high above us in the sky.
The length of the formed shadow	An object has the longest shadow.  Morning  Afternoon	An object has the shortest shadow.  Noon

Universe

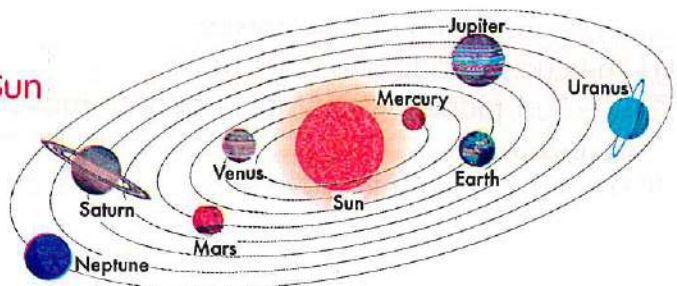
- » It is the wide space that contains celestial objects, such as galaxies, stars, planets, moons, comets, meteors, and even human-made satellites, like International Space Station..., etc.

Galaxy

- » It is a group of stars, planets, and gases that are held together by gravity.

Solar System

- » The solar system includes the **Sun** and **eight planets** that revolve around the Sun in fixed orbits.
- » Planets rotate on their axes in different speeds.
- » Jupiter is the **fastest-rotating planet** around its axis in the solar system.



Stars

1

Stars are giant spheres of superhot gases made of mostly **hydrogen** and **helium** gases.

2

Stars appear to move across the night sky due to the rotation of the Earth on its axis.

3

Some stars are larger than our Sun, while others are smaller.

The Sun

1

- The Sun is a **medium-sized star**.
- The Sun is the only star in our solar system.

2

The Sun is the **center** of the solar system.

3

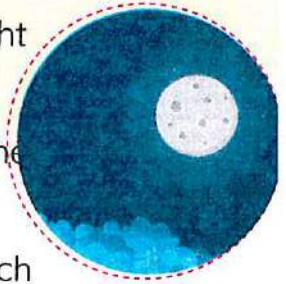
The Sun provides the Earth with **heat** and **light** energies.

Sunshine

- » The cities in the east, such as Marsa Alam, see the sunrise before the cities in the west, such as Siwa.

Moon

- » The moon is a dark celestial body that seems to be bright as it reflects the sunlight that falls on it.
- » The moon phases change as the moon revolves around the Earth.
- » The moon makes a complete cycle around the Earth each lunar month.



Guidelines to Help Students

If the question says:

The moon's phase will be:

The moon appears fully illuminated. (It appears as a completely bright circle.)	Full Moon
The moon appears completely dark.	New Moon
One half is illuminated + the other half is darkened.	Quarter
The edge of the moon's face appears illuminated. (The bright part is less than the dark one.)	Crescent
The bright part is greater than the dark one.	Gibbous

The moon phases during the lunar month "Hijri month":

Moon Phase	Description
① First Crescent 	- The edge of the moon's face is illuminated (bright) where its size increases gradually with time. - This phase is the first phase of the moon phases.
② First Quarter 	- One half of the moon's face is illuminated. - The other half of the moon's face is darkened.
③ First Gibbous 	- The bright illuminated end part of the moon's face increases gradually. - The line separating the illuminated part and the darkened part appears curved.
④ Full Moon 	- The apparent face of the moon that faces the Earth is fully illuminated. - This phase appears in the middle of the lunar month. (Where Earth lies between the Sun and the moon)
⑤ Second Gibbous 	- The illuminated part of the moon's face decreases gradually. - The line separating the darkened part and the illuminated part appears curved.
⑥ Second Quarter 	- One half of the moon's face is darkened. - The other half of the moon's face is illuminated.
⑦ Second Crescent 	The edge of the moon's face is an illuminated crescent.
⑧ New Moon 	- The apparent face of the moon that faces the Earth is fully darkened. - This phase appears on the last day of the lunar month. (Where the moon lies between the Sun and Earth)

Constellations

Constellation

- It is a group of stars that looks like it forms a pattern of a certain shape in the sky.

Example: The Constellation Orion

- The ancient Greeks gave it this name relative to a **mythical hunter**.



Scenario	Result
The positions of stars don't change, but they seem to move across the night sky.	Earth's rotation on its axis
- Constellations appear at different locations in the sky during different times of the year. - So, we can see different constellations in winter than in summer.	Earth's revolution around the Sun
Every night, new stars appear in the sky from the east.	Earth's revolution around the Sun
Some constellation become invisible to us although they still exist in their location.	Earth's revolution around the Sun

NOTE:

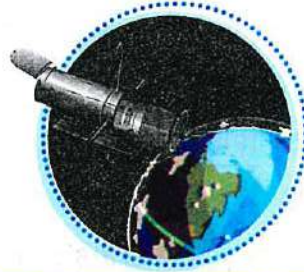
- The location of constellations near the North and South Poles changes a little bit throughout the year, as the stars close to these poles move slightly in the sky.

Using Technology to Study the Universe

» Technology helps us invent some tools, such as:



Galileo Binoculars



Hubble Telescope

Importance of Binoculars and Telescopes

They help us take a closer look at more distant objects in more details, such as:

- | | |
|---------------------------|----------------------------------|
| ① The surface of the moon | ② Asteroids |
| ③ Our neighboring planets | ④ Stars in and out of our galaxy |

Planetarium

» It is a place where we can see images of stars, planets, constellations, and other celestial bodies on its dome ceiling.

How the Planetarium Works

- ① A **projector** that displays images on its ceiling that looks like a **dome**.
- ② **Special computer programs** are used to show pictures of:
 - What the sky looks like during certain times of the month or year.
 - What the sky looked like many years ago.



Copernicus

- He proved that the Sun is the center of the solar system.

2

Definitions of Concept 2

Earth's axis	It's an imaginary line that passes through the two poles of Earth.
Earth's rotation	It is the spinning of the Earth on its axis once every 24 hours.
Earth's revolution	It is the orbiting of the Earth around the Sun.
Cycle	It is a series of events that are repeated in the same order.
Solar system	It's a system that includes the Sun and eight planets that revolve around the Sun in fixed orbits.
Jupiter	It is the fastest-rotating planet on its axis in the solar system.
Constellation	It is a group of stars that forms a pattern in the sky.
Full Moon phase	It's a moon phase that appears in the middle of the lunar month, in which the moon appears as a completely bright circle.
Crescent phase	It is the first phase of the moon phases, where only the edge of the moon face is illuminated.
New Moon phase	It's a moon phase that appears on the last day of the lunar month, in which the moon is completely dark.
Planets	They're dark celestial bodies that revolve around the Sun in fixed orbits.
The Sun	• It's a medium-sized star. • It is the only star in the solar system. • It is the center of the solar system.
Stars	They are giant spheres of superhot gases; most of them are hydrogen and helium.
Galaxy	It's a group of stars and other celestial objects held together by gravity.
Universe	It's a wide space that contains celestial objects, such as stars, galaxies, comets, meteors, and human-made satellites.
Atmosphere	It is a protective layer around Earth that allows some light waves to pass through while blocking some other light waves.
Planetarium	It is a place where we can see images of stars, planets, constellations, and other celestial bodies.

3**Give Reasons For...****Concept 2**

- 1 **The day and night phenomenon occurs.**
 - Due to the rotation of the Earth on its axis.
- 2 **The Sun appears to move across the sky throughout the day.**
 - Due to the rotation of the Earth around its axis.
- 3 **The four seasons cycle occurs.**
 - Due to the Earth's revolution around the Sun.
- 4 **Sunrise and sunset times are different each day on Earth.**
 - Due to the Earth's elliptical orbits and the tilt of the Earth on its axis.
- 5 **The position of the Sun changes in the sky throughout the day.**
 - Due to the Earth's rotation around its axis.
- 6 **The length of the shadow of an object changes throughout the day.**
 - Because the position of the Sun changes in the sky throughout the day as the Earth rotates on its axis.
- 7 **Although Earth rotates on its axis, we don't feel its movement.**
 - Because we are moving at the same speed as Earth's rotation on its axis.
- 8 **The moon has different phases during the lunar month.**
 - Due to the revolution of the moon around the Earth, and the revolution of both of them around the Sun.
- 9 **Every night, new stars appear in the sky from the east.**
 - Due to the revolution of the Earth around the Sun.
- 10 **The moon is a dark body, but we see it shiny at night.**
 - Because the moon reflects the sunlight falling on it.
- 11 **Stars seem bright in the night sky.**
 - Because they are made of hot gases.

Final Revision

- 12 **The Sun looks much larger to us than other stars.**
 - Because the Sun is nearer to us than other stars.
- 13 **Some telescopes on the Earth's surface cannot observe very distant celestial bodies.**
 - Due to the presence of the atmosphere that allows some light waves only to pass to Earth and block other light waves.
- 14 **Astronauts cannot be sent to study stars or other celestial bodies.**
 - Because the universe is so big, and these celestial bodies are just too far away.

4

What Happens If...?

Concept 2

- 1 **The Earth rotates on its axis?**
 - The cycle of day and night occurs.
- 2 **The Earth stops spinning on its axis?**
 - The cycle of day and night does not occur.
- 3 **Hydrogen and helium gases are burned inside the Sun?**
 - They produce heat and light.
- 4 **Half of the Earth faces the Sun?**
 - This half of Earth has day.
- 5 **The Earth rotates in a clockwise direction on its axis?**
 - The Sun and other stars seem to move from west to east.
- 6 **The Earth revolves around the Sun?**
 - The cycle of four seasons occurs.
- 7 **The sunlight falls on the moon's surface?**
 - The moon reflects the sunlight on Earth, so it appears bright.
- 8 **The sunlight falls on a tree in the morning and at noon?**
 - The tree has the longest shadow in the morning, but it has the shortest shadow at noon.

5**Exams on****Concept 4.2****Model Exam 1****Q1. (A) Choose the correct answer:**

1. _____ is the fastest-rotating planet on its axis in the solar system.
 a. Jupiter b. Earth c. Mars d. The moon
2. The Earth rotates on its axis once every _____.
 a. 24 days b. 24 hours c. 365 days d. 365 hours
3. Stars and the Sun are made of hot gases; most of them are _____ and _____.
 a. hydrogen - oxygen b. hydrogen - nitrogen
 c. nitrogen - helium d. helium - hydrogen

(B) Give a reason for:

- The day and night phenomenon occurs.
- _____

Q2. (A) Put (✓) or (x):

- The solar system is a group of stars, planets, and gases held together by gravity. ()

(B) Write the scientific term:

1. It is a wide space that contains celestial objects, such as galaxies, stars, and planets. (_____)
2. It is a special building with a dome ceiling and is used to see images of celestial bodies. (_____)

Q3. (A) Cross out the odd word:

- Crescent - Gibbous - Earth - New Moon (_____)

(B) From the opposite figure, complete:

1. This figure represents constellation _____.
2. This constellation consists of a group of _____.



Model Exam 2

Q1. (A) Choose from column (A) what suits it in column (B):

Column (A)	Column (B)
1 The Sun	a. is the first timepiece that was used by ancient Egyptians to know the time.
2 The sundial	b. is a dark celestial body that gives off its own light
3 The moon	c. is a medium-sized star that gives off its own light.
	d. is a dark celestial body that revolves around Earth.
1 2 3	

(B) What happens if:

- ☐ The Earth stops spinning on its axis?

Q2. (A) Choose the correct answer:

- ☐ The Sun appears as it moves from to
 a. south - north b. west - east
 c. east - west d. north - south

(B) Write the scientific term:

- 1 It is a group of stars that forms a pattern in the sky. (.....)
 2 It is an imaginary line passing through the two poles of Earth.
 (.....)

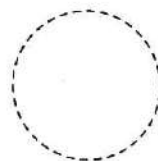
Q3. (A) Put (✓) or (x):

- ☐ Constellations help us determine the main directions. ()

(B) Write the moon phase of each of the following pictures of the moon:



A



B

Model Exam 3

Q1. (A) Choose the correct answer:

- 1 The shortest shadow of an object appears
 a. in the morning b. in the afternoon
 c. at noon d. at night
- 2 The number of stars in the solar system is
 a. one b. eight c. nine d. two
- 3 Half of the moon face can be seen illuminated in the phase.
 a. New Moon b. Quarter c. Gibbous d. Full Moon

(B) Give a reason for:

- The stars seem bright in the night sky.
-

Q2. (A) Correct the underlined word:

- Copernicus proved that the Earth is the center of the solar system. (.....)

(B) What happens:

- 1 If half of the Earth faces the Sun?

- 2 To a tree's shadow in the morning and at noon?

Q3. (A) Put (✓) or (x):

- The sunrise and the sunset occur at the same time every day. ()

(B) Classify the following to revolution or rotation:

- 1 It is the spinning of an object around an axis:
- 2 It is the movement of an object around another object:

Model Exam 4

Q1. (A) Choose the correct answer:

- 1 Every night, new stars appear from the
 a. north b. south c. east d. west
- 2 has the greatest gravitational force in the solar system
 a. Jupiter b. The moon c. Earth d. The Sun
- 3 The moon appears as a completely bright circle at the phase.
 a. New Moon b. Full Moon c. Crescent d. Quarter

(B) Give a reason for:

- 1 The Sun appears to move across the sky from the east to the west.

Q2. (A) Cross out the odd word:

- 1 Earth - Stars - The moon - Jupiter (.....)

(B) Write the scientific term:

- 1 It is the time taken by the moon to make one revolution around Earth. (.....)
- 2 It is a phenomenon that occurs when half of the Earth doesn't receive any sunlight. (.....)

Q3. (A) Put (✓) or (x):

- 1 The Earth orbits the Sun in an elliptical path. ()

(B) Compare between the moon's cycle and the seasons' cycle according to the cause of their occurrence:

Moon's Phases Cycle	Four Seasons Cycle
.....	
.....	
.....	

Model Exam 5**Q1. (A) Choose the correct answer:**

- 1 The moon appears completely dark in the phase, which occurs in the of the lunar month.
 a. Full Moon – beginning b. Crescent – end
 c. New Moon – beginning d. New Moon – end
- 2 Day and night phenomenon occurs due to the rotation of the Earth around
 a. the Sun b. the moon
 c. the solar system d. its axis
- 3 The Sun and other stars are made up of
 a. hot solids b. hot gases c. cold solids d. cold liquids

(B) Give a reason for:

- The Sun looks much larger to us than other stars.
-

Q2. (A) Correct the underlined word:

- Gibbous is the moon phase at which one edge only appears bright.
 (.....)

(B) Complete the following sentences:

- 1 The wide space that contains celestial object is called
- 2 Some telescopes on the Earth's surface can't observe distant celestial bodies due to the presence of the

Q3. (A) Put (✓) or (X):

- we can see different constellations in winter than in summer due to the Earth's revolution. ()

(B) Mention two technological tools that help us see distant celestial bodies in space in more details:

- 1
- 2

حمل الآن

مجاناً وحصرياً

المراجعة رقم (3)

اختبار شهر ابريل



Concept 1: Effects of Gravity**Week (9)****Get started - Lesson: (1 - 2 - 3)****Date:** / /**▶ Classroom Performance:****Learning journey** Scientific fact studied.

- **How** does the force of gravity affect the movement of celestial bodies and maintain our solar system?

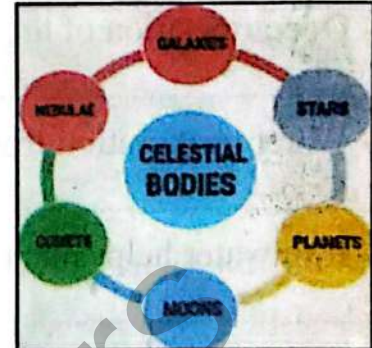
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- **What** celestial bodies do we see in the sky day and night?

.....

- The force of gravity controls the movement of the universe.

By observing the following picture: what is the role of gravity in each picture?



		
.....		
		
.....		
		
.....		



Gravitational forces are not limited to the earth. **Explain?**

- Mention the properties of gravity?



Properties of gravity

1-

2-

3-



What happens?

A- To Gravity force between Earth and its Moon If mass of the Moon is doubled.

B- To Gravity force between Earth and its Moon If distance between them is doubled.

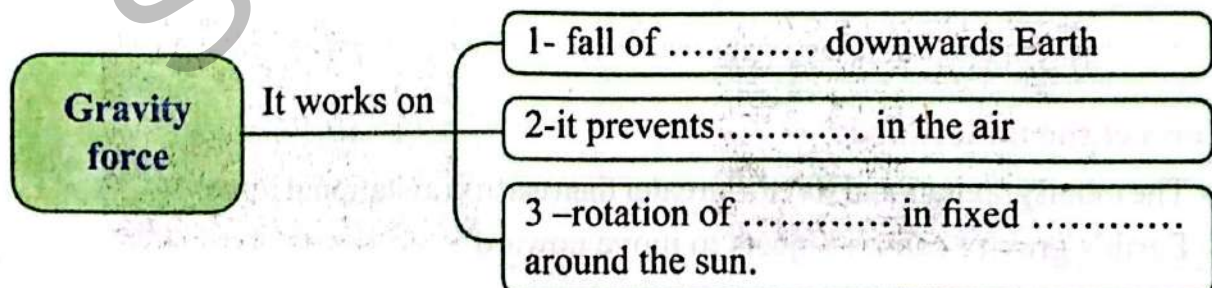
How do objects move?

- Objects move due to two forces: the force of and the force of in which a magnet pulls the metal clip paper or pushes another magnet.
- force that pulls the glass cup that fell from your hand towards the ground
- Also force that causes the movement of the turbine arms and their rotation.



Give reasons The planets revolve around the sun in a fixed orbit.

Complete the following diagram:



- Using schoolbook in the view of your studied, write down what the following refers:

Gravity	
Orbit	

Homework (Performance):

Complete the following:

- 1- The force that returns the ball after it is thrown upward is a force.
- 2- If the distance between earth and its moon increases the attraction force between them is.....
- 3- Magnetic is considered a force and force.
- 4- Gravity is considered a force.

Read the following statement and then correct the false ones:

- 1- Earth's gravity is greater than the moon's gravity.
- 2- The greater the mass of an object, the less its gravitational force.
- 3- The magnetic force is only a pulling force.
- 4- The force of gravity exists only between objects in contact.
- 5- The downward fall of objects occurs due to friction force.

Weekly assessment:

First test

Complete the following:

- If the distance between the moon and earth increases the gravitational force between them

Give reason? The stability of objects on the earth's surface.

.....

Correct the underlined:

- 1- The moon gravitational force is greater than earth gravitational force. (.....)
- 2- Earth's gravity causes objects to move upward. (.....)

Second test**Complete the following:**

- As the of the body increase its gravity increases.

Give reason? The moon orbits Earth in a fixed orbit.

.....

Correct the underlined:

- 1- When anybody falls from a high place, it moves upwards. (.....)
- 2- When the distance between two bodies increases, the force of attraction between them is increasing. (.....)

Third test**Complete the following:**

- The gravitational force between two objects is decreased when the distance between them

Give reason? The moon gravity is less than Earth gravity.

.....

Correct the underlined:

- 1- Gravitational force increases as the body is higher above the earth's surface. (.....)
- 2- Waterfalls pushed from the top of the river downwards due to air resistance. (.....)

Concept one: Effect Of Gravity**Week (10)****Lesson: (4 - 5 - 6)****Date: / /****▶ Classroom Performance:****Trip to the space**

Why does not the moon collide with Earth planet while orbiting in outer space?

Every object that raises upwards falls towards

The center of Earth. Explain?



Complete:

a- The mass of Earth is than the mass of the moon so, orbits

b- The mass of Earth is than the mass of Sun so, orbits

Write the relationship between cause and effect in the following phrases :

Causes	Effects
The friction of the car tiers on the road.	
The gravity of Earth pulls the moon.	
Earth gravity pull the ball down.	

Explain

Explain? A book resting on a table.

What happens?

When there is no gravity between Sun and the planets.

Using your school book and in view of your studied, write down what the following refers:

Friction

Homework (Performance):

Complete the following:

- 1- forces that occurs between two touching surfaces and slow down the motion of the objects.
- 2- The force that returns ball to the ground after it has been thrown upward is
- 3- pull skydivers upward to slow down their fall downward the ground.

Read the following statements and then correct False ones:

- 1- Friction increases the speed of an object.
- 2- Air resistance does not reduce the speed of a moving object.
- 3- Gravity affects the revolving speed of the planets around the sun.
- 4- An orbit is a spherical shape in which the planets revolve around the sun.
- 5- The planets revolve around Sun in fixed orbits under the effect of Sun's gravity.
- 6- Lightest objects reach earth faster than heaviest objects in the absence of air.

Weekly assessment:**First test****Complete the following:**

- Revolving of planets around Sun is in fixed orbits due to the effect of....

Write what the following statement refers:

A type of friction force that occurs due to the movement of objects in the air.

(.....)

Give reason? Sun is the center of motion in the solar system.**Correct the underlined:**

- 1- Magnets attract objects made of wood. (.....)
- 2- The force of gravity between two objects increases as the distance between them increases. (.....)

Second test**Complete the following:**

- Magnets attract some metals, such as

Write what the following statement refers:

Sun and the planets group revolve around it.

(.....)

Give reason? Earth's gravity is greater than Moon gravity.**Correct the underlined:**

- 1- Air resistance effects a body falling downward in the same direction as Earth's gravity. (.....)
- 2- The force that occurs between two touching surfaces and slows down movement is known as magnetism. (.....)

Third test**Complete the following:**

- reduces the speed of moving objects in the air.

Write what the following statement refers: The force that arises between two objects in contact and slows down the movement of the object. (.....)**Give reason:** The Moon revolves around Earth in a fixed orbit.**Correct the underlined words:**

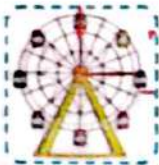
- 1- Earth is the center of motion in the solar system.
- 2- The magnet pulls the metal paper clips because of the gravitational force.

Concept (2): Patterns of motion in the sky**Week (11)****Lesson: (1 - 2)****Date: / /****▶ Classroom Performance:**

Stars come together to form patterns that human named them as they see or imagine them in the sky.



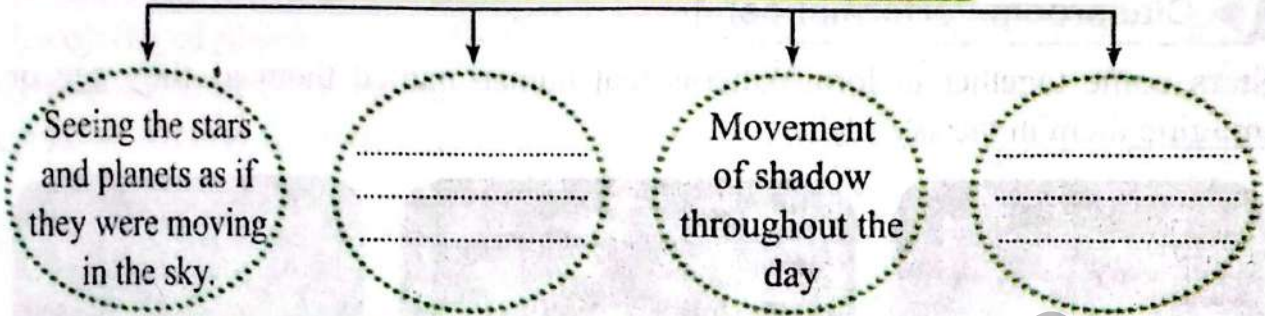
Look at these pictures and discusses with your classmates to know which one is orbiting round itself and which is orbiting in an orbit.



We reach the space:

Complete the diagram:

The rotation of Earth on its axis causes:



Seeing the stars and planets as if they were moving in the sky.

Movement of shadow throughout the day



Compare between the earth's rotation around its axis and the earth's revolution around the sun

Revolution	Rotation
	

Look at the corresponding figure and then answer:

- The movement of Earth around its axis causes the phenomenon of
- Where the half of Earth faces the sun has the other half of Earth that faces away from sun has

What happens if the Earth doesn't rotate around its axis?



Using your student book in the view of you studied, write down what the following refers to:

Earth's axis	
--------------	-------

Homework (Performance):

Complete the following:

- 1- Earth spins around and orbits around
- 2- During Earth's rotation around its axis, half of Earth facing Sun is
- 3- The imaginary line that passes through the north and the south pole of Earth is called
- 4- Cycle of day and night occurs due to Earth's rotation around

Read the following sentences then correct the wrong one:

- 1- Earth rotates around its axis once every hour.
- 2- Sun looks like it's moving in the sky.
- 3- The fastest-rotating planet around Earth is Jupiter.
- 4- The cycle of day and night occurs once a year.
- 5- The planets of the solar system revolve around Sun at similar speeds.
- 6- Earth's rotation around Sun causes the cycle of night and day.

Weekly assessment:

First test

Complete the following: Earth rotatesclockwise around its vertical axis

Write what the following statement refers:

The fastest planet that rotates on its axis in the solar system. (.....)

Give a reason: We can't feel the spinning of Earth and it seems to be stationary.

.....

Correct the underline words:

- Earth rotates around its axis, which runs horizontally.
- The cycle of night and day occurs due to the rotation of Earth around Sun.

Second Test

Complete the following: A phenomenon of occurs, because of Earth's rotation around its axis.

Write what the following statement refers:

An imaginary line that passes through the North and the South Poles of Earth. (.....)

Give a reason: We can't feel the spinning of Earth and it seems to be stationary.

.....

Correct the underlined word:

- Mars is the fastest-rotating planet on its axis in the solar system.
- During Earth's rotation around its axis, the half of Earth facing Sun is night.

Third Test

Complete: is the fastest-rotating planet on its axis in the solar system.

Write what the following statement refers:

It is a phenomenon that occurs when Earth rotates on its axis. (.....)

Give a reason: We can't feel the spinning of Earth and it seems to be stationary.

.....

Correct the underlined word:

- Earth takes 365 days to make a complete cycle on its axis.
- During Earth's rotation around its axis, half of Earth away from Sun is day.

Monthly exercise (2)

Write what the following statement refers:

- 1- Frictional force that arises between the moving objects and air. (.....)
- 2- An oval path in which the planets revolves around Sun. (.....)
- 3- An imaginary line that passes through the North and the South Poles of Earth. (.....)
- 4- A celestial body that controls the rotation of the planets around it due to its gravitational force. (.....)

Complete the following statements:

- 1- Sun is in the middle of the sky at
- 2- The gravitational force between two objects depends on the two bodies.
- 3- The Moon revolves around Earth this indicated a gravitational force of is greater than the gravitational force of

What is meant by: 1- Friction

2- Gravity

Read the following sentences and then correct the incorrect one:

- 1- When an object is thrown upwards into the air, gravity causes it to change the direction of its motion.
- 2- Earth revolve around Sun in a spiral orbit.
- 3- Gravity can be seen and its effects is observed.
- 4- Changing the position of the shadows of the objects throughout the day results in the apparent movement of Sun.
- 5- The higher the object is above Earth's surface, the more the force of gravity affects it.
- 6- The half of Earth facing Sun during Earth rotation around its axis is nigh.
- 7- When we approach two different poles of two magnets, they push each other.

Give reasons for the following:

- 1- Sun has more gravity than Earth.
-

2- The skydiver appears to be swimming in space,

3- In the sky, the moon and stars look as if they rise and set ,

4- Cycle night and day,

5- The apple falls from the tree,

6- The Moon revolves in a fixed orbit around Earth.

Choose the right answer:

1- The cycle of seasons during the year is due to Earth's revolution around ...

- a) The moon b) the galaxy c) its axis d) Sun

2- All the following is true for gravitational force except

- a) Objects are pulled toward the center. c) Visible force.
b) Objects fall from above to the ground. d) affects non-contact.

3- Earth rotates aroundevery 24 hours

- a) its axis b) Sun c) Moon d) Star

4- Magnets attract some metals such as

- a) Iron and nickel b) Aluminum and copper
c) Iron and gold d) Copper and silver

5- Earth looks like a..... sphere from the space ,because water covers most of the planet's surface .

- a) Blue b) Green c) Yellow d) Red

What happens if :

1- The distance between Earth and the Moon doubled relative to the gravitational force between them.

2- Throwing paper and clothes peg at the same time from a window on the third floor.

3. Earth stop rotating around on its axis.

4- Lack of gravity.

Answer the following:

1- What happens if there is no gravity between Earth and the Moon?

2- What is the force that causes the pen to fall from your hand?

3- An object with a mass of 80 kilograms, and another object with a mass of 50 kilograms. Which of them is affected by more gravity if they are at the same height above Earth's surface?

4- How long does Earth take to rotate around its axis ?

5- Look at the corresponding shape, then choose:

a) The parachutist falls to the ground by force.
(Light – Gravity)

b) The friction force between air and the balloon leads
the Speed of landing. (Increasing - decreasing)

6- What is the force that stops the car when we use the brakes?

7- What is the importance of gravitational force?

8- Who discovered that Sun is the center of the solar system?

9- What are the factors affecting the gravitational force between two objects ?

10- What force decreases the speed of a moving ball on the ground?

11- What is the difference between Earth's rotation on its axis and its revolution Sun?



Concept (2): Patterns of motion in the sky

Week (12)

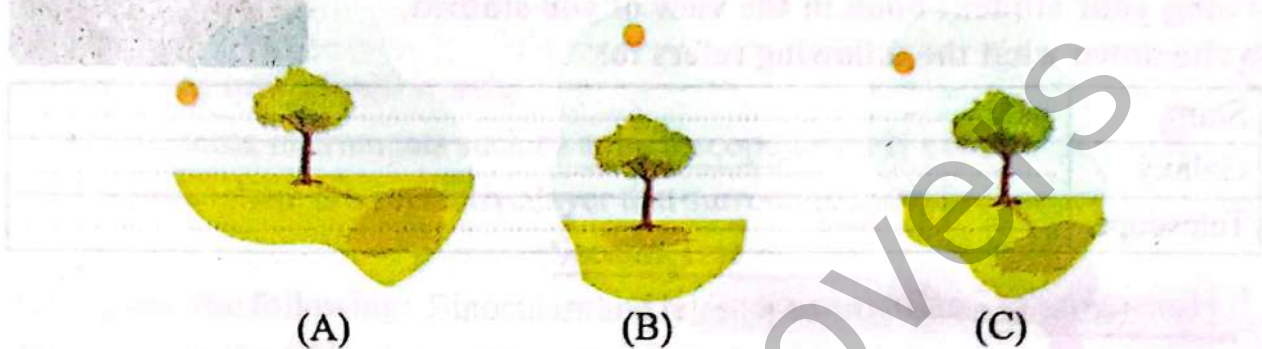
Lesson: (3 - 4)

Date: / /

▶ Classroom Performance:

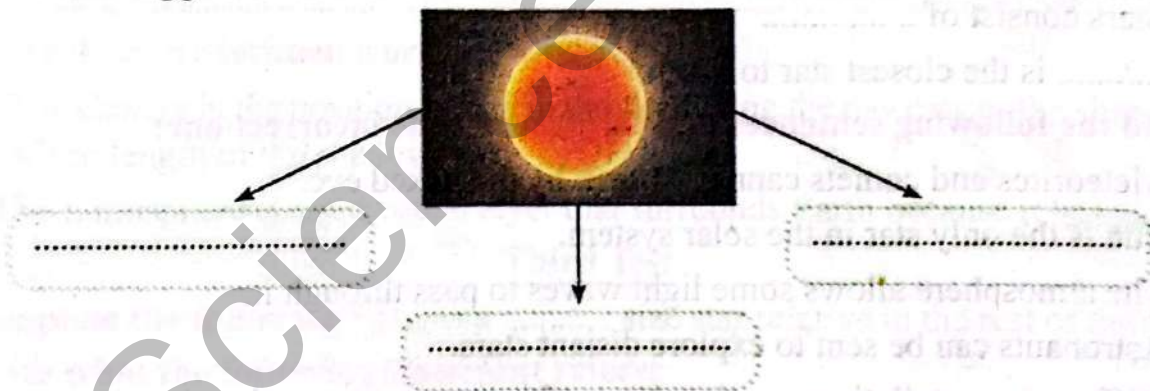
The position of my shadow

Which of the following pictures shows what the tree's shade looks like in the middle of the day?



What are the two factors that affect the length and angle of the shadow?

Sun seems biggest to us than the rest of the stars **Write three** facts about Sun.





Astronauts cannot be sent to study celestial bodies? because they are so far from us, **tools** can be used to see distant celestial bodies at close up, **mention some** of these instruments?



- Look at the corresponding picture and answer:

- This group is called
- The name of this group of stars is



Using your student book in the view of you studied, write down what the following refers to:

Stars	
Galaxy	
Telescope	

Homework (Performance):

Complete the following:

- Orion the Hunter is an example of a in the sky.
- In the early morning, the person's shadow is in direction .
- Stars consist of
- is the closest star to Earth.

Read the following sentences and then correct the incorrect one:

- Meteorites and comets cannot be seen by the naked eye.
- Sun is the only star in the solar system.
- The atmosphere allows some light waves to pass through it.
- Astronauts can be sent to explore distant stars.
- Different constellations can be observed in summer more than in winter.
- A group of stars that look like it forms a pattern of a certain shape in the sky is called a constellation of stars.

Weekly assessment:**First test****Complete the following:**

The length of the shadow varies by changing the location of the in the sky.

Write what the following statement refers:

A group of stars form a certain shape in the sky. (.....)

Give reason: Sun seems to be the greatest star to us than other stars.**Correct the underlined words:**

1. We use some instruments such as a microscope to study celestial bodies.
2. The atmosphere is a protective layer that surrounds Earth because it has clouds.

Second Test**Complete the following:** Binoculars and telescopes are instruments used in**Write what the following statement refers:**

Giant celestial bodies made up of superhot gases. (.....)

Give reason: Sun looks much larger to us than other stars.**Correct the underlined words:**

- 1- The change in the position of Sun in the sky during the day causes the similarity of the length of the shadow.
2. The atmosphere is a protective layer that surrounds Earth because it has clouds.

Third Test**Complete the following:** Sun is a size star relative to the rest of the stars.**Write what the following statement refers:**

Giant celestial bodies made up of superhot gases. (.....)

Give reason: The length and angle of shadows vary throughout the day.**Correct the underlined word:**

- 1- The closest star to Earth is Jupiter.
- 2- Conestellations appear more in spring.

حمل الآن

مجاناً وحصرياً

المراجعة رقم (4)

اختبار شهر ابريل



Worksheets with model answer on concept (4.1)

Worksheet (1)

1-Choose the correct answer

1. A boy on a slide moves down toward the ground due to the effect of.....
 - a. the boy's height.
 - b. gravity.
 - c. friction.
 - d. the temperature of air.
2. Gravity keeps the moon in orbit around.....
 - a. Sun.
 - b. Earth.
 - c. itself.
 - d. another moon
3. Gravitational force of Earth is affected by.....
 - a. mass and time.
 - b. mass and distance
 - c. mass only.
 - d. distance only
4. If there is no Earth's gravity, the moon would.....
 - a. revolves faster around Earth
 - b. still orbit the Earth
 - c. attracts to Earth.
 - d. floats off into space
5. All the following are properties of Earth's gravity, except.....
 - a. it pushes objects upward.
 - b. it affects the moon.
 - c. it pulls objects downward.
 - d. it is a type of attraction force.
6. Earth attracts objects towards.....
 - a. its center.
 - b. the sky.
 - c. the moon.
 - d. the sun.

2- Write the scientific term of each of the following:

1. A force that pulls object down toward the Earth's surface.
(.....)
2. A celestial body that orbits the Earth.
(.....)
3. A phenomenon takes place in oceans and seas due to gravity of moon.
(.....)

Worksheet (2)

1- Put (✓) or (×)

1. Magnet must touch objects to attract them. ()
2. Force is the reason of motion of any body. ()
3. Magnet has an invisible force called magnetism. ()
4. Gravity is similar to magnetism because both of them has only pulling force. ()
5. After leaving a squeezed spring, it has no force to return back to its original state. ()
6. Small planets have bigger gravity than big planets. ()
7. Gravity affects only on the moving objects but doesn't affect the objects at rest. ()
8. Gravity is attraction or repulsion force between two objects. ()

2- Give reasons for:

1. Paper clips are pulled toward the magnet.

.....

2. The ball changes its direction after we throw it upwards.

.....

3. Gravity of Earth is greater than gravity of the moon.

.....

3- What happens if...?

1. You squeeze a spring then leave it free.

.....

.....

2. There is no gravity on Earth.

.....

Worksheet (3)

1- Choose the correct answer:

1.force acts on all objects on Earth.
 - a. Gravity
 - b. Speed
 - c. Electric
 - d. magnetism
2. Gravity depends on the..... of a body.
 - a. speed
 - b. mass
 - c. length
 - d. age
3. A table stands on the ground needs.....to move.
 - a. sunlight
 - b. mass
 - c. force
 - d. air

2- Put (V) or (X):

1. All objects on Earth's surface is affected by magnetism force. ()
2. Gravity of Earth push objects towards its center. ()
3. The direction and mass of an object are changed due to gravity. ()
4. Any object on Earth's surface is affected by repulsion force of gravity()

3- Complete the following sentences using words below:

(Direction - gravity- center - pulling)

1. The direction of Earth's gravity is always toward..... of Earth.
2. The force of gravity is always..... force, and it changes the..... Of movement.
3. Any object has.....depending on its mass.

Worksheet (4)

1- Complete the following sentences:

1. A magnet has..... force that attracts and pulls metal objects toward it.
2. A parachute in air is affected by..... that acts against the..... force of Earth.
3. A person can control the speed of his bike by using..... to slow down its movement.
4. The force that arises between the bicycle brake and the tires is called.....which slows down the movement of the bicycle.
5. Air resistance is a type of..... force.
6. The direction of..... force opposes the direction of a body moves through air.
7. The attraction force between the Sun and Earth is..... than that between Earth and the moon because the Sun has.....mass.

2- Write the scientific term of each of the following:

1. The force that slows down the movement of objects through air.
(.....)
2. The force by which metals are attracted or pulled to a magnet.
(.....)
3. A type of friction force that opposes the movement of an object as it passes through air. (.....)
- 4.
5. The tool that is used by skydiver to slow his drop.
(.....)

3- Give reasons for:

1. Skydiver opens his parachute during landing.

.....

2. When you press the bicycle brake, its speed will stop moving after few seconds.

.....

3. Some iron nails are attracted to a magnet.

.....

Worksheet (5)

1- Put (✓) or (x):

1. Air resistance is a factor that speeds up the falling objects toward the Earth. ()

2. All objects on Earth's surface are affected by gravity force which pulls objects downward. ()

3. There is no air in space so, air resistance slows down the movement of objects through space. ()

4. If there is no air resistance on Earth, all objects will reach the Earth's surface at the same moment when dropping them from the same height. ()

5. Air resistance force acts in the opposite direction of gravity force. ()

6. Heavier objects reach Earth's surface before smaller objects due to the effect of air resistance which affects their movement. ()

7. Air resistance is a type of pulling force. ()

2- Complete the following sentences using the words below:

(Law of Motion - slows down - gravity- air resistance - longer - shorter - constant)

1. The force that pulls objects down toward Earth's surface is called.....
2. When the skydiver opens his parachute the force of.....makes its speed.....
3. When throw a plastic ball with holes from 5-meter height, it will take..... time to reach the ground while a paper clip takes..... time when it is thrown from the same height.
4. The law which states that the force of gravity is..... and acts on all objects in the same way is called.....

Worksheet (6)

1- Choose the correct answer:

1. The force of..... keeps the planets on their paths around the Sun.
a. air resistance b. friction c. gravity d. electricity
2. Gravity is.....force that holds all objects in their places.
a. visible pulling b. visible pushing
c. invisible pulling d. invisible
3. The planets revolve around the Sun in fixed..... orbits.
a. oval b. irregular c. rectangular d. triangular
4. The speed of Earth's revolution around the Sun is nearly..... km per hour.
a. more than 100,000 b. more than 200,000
c. less than 100,000 d. less than 50,000
5.is (are) the center of the solar system.

- a. The Earth
- b. The Sun
- c. The moon and Earth
- d. The Sun and Earth

2- Put (V) or (x):

1. The Sun revolves around Earth. ()
2. The planets revolve around the Sun by the effect of gravitational pushing force. ()
3. Gravity is an attraction force that can be seen easily. ()
4. The orbit of each planet has an ellipse shape. ()
5. The Earth's gravity keeps all planets in their orbits. ()
6. The scientist Nicolas Copernicus stated that Earth revolves around the Sun. ()

Worksheets with model answer on concept
(4.2)

Worksheet (1)

1- Choose the correct answer

1. The imaginary line that passes through Earth's center is called
a. the day. b. the axis. c. the night d. the pole.
2. The orbiting of an object around another object is called
a. revolution. b. spinning. c. rotation. d. speed.
3. the appears in the during early morning .
a. east b. west c. north d. south

2-Complete the following sentences using the words below:

(The center of the sky Earth - east - axis - 24 hours – earth)

1. Occurrence of day and night is due to the rotation of.....on its.....
2. Earth completes one rotation on its axis once every.....
3. In the early morning the Sun appears in while at noon it appears
In.....

3- Give reasons for:

1. Occurrence of day and night.

.....

.....

2. Half of Earth appears dark at night.

.....

.....

3. The Sun appears as it moves across the sky.

.....

.....

4- What happens if ..?

1-Earth doesn't rotate on its axis.

.....

.....

2-Half of Earth faces the Sun.

.....

3-Earth completes its spinning on its axis in 12 hours only.

.....

.....

Worksheet (2)

1-Complete the following sentences using the words below

(Jupiter- cycle -Sun)

1. Earth's revolution around the..... causes the cycle of seasons.
2. The fastest rotating planet in the solar system is.....
3. The series of events that are repeated in the same order is called.....

2- Choose from column (B) what suits it in column (A):

(A)	(B)
1. Jupiter	a. is the center of the solar system.
2. Earth	b. is the fastest planet that rotates on its axis
3. The Sun	c. is the planet that completes one cycle on its axis in 24 hours.
	d. is the path in which planets revolve around the Sun.

1.

2.

3.

3-Write the scientific term of each of the following:

1. The fastest planet during its rotation on its axis.

.....

2. The time taken by Earth to complete one rotation on its axis.

.....

3. A phenomenon occurs due to Earth's revolution around the Sun.

.....

4- choose the correct answer :

- 1- In Egypt the cities in see the sunrise before the cities in.....

a. east – west b. west – east c. north – south d- south – north

- 2- the earth's axis is

a. vertical b. horizontal c. circular d. real

3-the space craft that orbits earth takes aboutto make one turn around earth .

- a. more than 3 hours
- b. more than one hour
- c. Less than 2hours and more than one hour
- d. Less than one hour and more than half an hour

Worksheet (3)

1-Complete the following sentences

1. Earth's rotation on.....causes the Sun seems to rise in.....direction and sets in..... direction.
2. Formation of.....of objects is due to movement of across the sky.
3. The first time piece that is used by ancient Egyptians to know the time is called.....
4. The position of the Sun in the sky affects..... and..... of shadows of objects.
5. In morning and..... the Sun forms longer shadow of an object.
6. At noon the Sun forms.....shadow of an object.

2-Choose from column (B) what suits it in column (A):

(A)	(B)
1. Day and night phenomenon	a, occurs due to the movement of the Sun in the sky.
2. Four seasons phenomenon	b. occurs when Earth completes one cycle on its axis.
3. Formation of shadows	C. Occurs due to the revolution of the moon around Earth.
	d. occurs due to the revolution of Earth around the Sun.

3-Put (√) or (x):

1. Earth rotates on its axis at low speed. ()
2. We can feel the movement of Earth easily. ()
3. All objects on Earth's surface move with the same speed of Earth. ()
4. Movement of objects in the sky is due to the Earth revolution around the Sun. ()
5. The position of the shadow of Cairo Tower will not change during the day. ()

Worksheet (4)

1. Choose the correct answer

1. The group of stars that make a certain shape in the sky is called.....
a. solar system. b. universe. C. constellation. d. ecosystem.
2. Constellation appear in the sky during the year.
a. at different positions b. at the same position
C. in winter only d. in summer only
3. All the following are from the properties of constellations, except.
a. they consist of stars and planets.
b. they change their positions throughout the year.
C. they seem to move across the night sky.
d. they can form certain shapes in the sky.
4. Every night, we can see new stars appear from ... direction.
a. north b. south C. east d. west
- 5.....are celestial bodies that make their own light.
a. Moons and planets b. The Sun and stars
C. The Sun and planets. D. Earth and the sun

2. Correct the underlined word:

1. Constellation consists of a group of planets that form a pattern. (.....)
2. Every night, new stars appear from west. (.....)
3. Jupiter revolves around the Sun in a rectangular orbit. (.....)

Worksheet (5)

1-cross the odd word :

1-Crescent – shadow – full moon – gibbous

2-Moon – sun – earth – Jupiter .

2-write the scientific term :

1-Dark object revolve around the earth and reflect the sun light .
(.....)

2-The moon phase at which moon seems completely dark .
(.....)

3-The moon phase at which moon seems completely bright .
(.....)

4-The moon phase at which one edge only appears bright
(.....)

3- Complete the following :

1- Through the month, we can see different of the moon in the sky .

2- The moon orbitsand both of them orbit

3- All moon phases are repeated every

4- At..... phase , the moon appears completely shining in the sky at night .

Worksheet (6)

1. Complete the following sentences using the words below:

(Galaxy - atmosphere - universe)

1. The wide space that contains celestial objects is called.
2. A protective layer around Earth that allows some light waves pass to Earth and blocks other light waves is called
3. Group of stars, planets and gases held together by gravity is called

2-Write the scientific term of each of the following:

1. It contains the Sun, eight planets and more than 200 moons.
(.....)
2. The scientist who discovered that the Sun is the center of our solar system.
(.....)
3. The scientist who discovered that how the Sun converts matter directly into energy.
(.....)
4. It is a medium-sized star that provides us with heat and light.
(.....)
5. They are giant spheres of superhot gases most of them are hydrogen and helium.
(.....)
6. It is a group of stars, planets and gases held together by gravity.
(.....)
7. It is a wide space that contains celestial bodies as stars, galaxies, comets, meteors and satellites.
(.....)

8. It is a protective layer around the Earth that allows some light waves to pass and blocks others. (.....)

3- Choose from column (B) what suits it in column (A):

(A)	(B)
1. Albert Einstein	a. Orbits around Earth.
2. Copernicus	b. Locates at the center of the solar system.
3. The Sun	c. Proved that the Sun is the center of the solar system.
	d. Explained how the Sun converts matter directly into energy.

4-Write the scientific term :

- 1- Scientists that manage the planetarium buildings . (.....)
- 2- A special buildings with dome ceiling and used to see image of celestial bodies (.....)

Model answer on concept (4.1)

Worksheet (1)

1- choose

1. b 2. b 3. b 4. d 5. a 6. a

2- Write scientific term

1. Gravity. 2. The moon. 3. The ocean tides.
-

Worksheet (2)

1 - Put (V) or (x)

1. (x) 2. (✓) 3. (✓) 4. (x) 5. (x) 6. (x) 7. (x) 8. (X)

2- Give reason

1. Because of the force of magnetism.
2. Because gravity force always pulls it downwards.
3. Because the mass of Earth is greater than the mass of the moon.

3- What happen

1. The spring will be pushed back when you leave it free.
 2. All objects on its surface will float off into space.
-

Worksheet (3)

1- Choose

1. a 2. b 3. c

2- Put (V) or (x)

1. (x) 2. (x) 3. (x) 4. (x)

3- Complete

1. Center 2. Pulling – direction 3. Gravity

Worksheet (4)

1- Complete

1. Magnetism 2. air resistance – gravity
3. Brake 4. Friction 5. Friction 6. air resistance 7. bigger – bigger

2- Write scientific term

1. Air resistance. 2. Magnetism. 3. Air resistance. 4. Parachute.

3- Give reason

1. To slow down his speed due to air resistance.
2. Because the brake produces friction force
3. Because magnetism force pulls them to the magnet.
- 4.

Worksheet (5)

1- Put (V) or (x)

1. (x) 2. (✓) 3. (x) 4. (✓) 5. (✓) 6. (✓) 7. (x)

2- Complete

1. gravity. 2. air resistance - slows down. 3. longer-shorter
4. constant-law of motion

Worksheet (6)

1- Choose

1. c 2. c 3. a 4. a 5. b

2- Put (V) or (x)

1. (x) 2. (x) 3. (x) 4. (✓) 5. (x) 6. (✓)

Model answer on concept (4.2)

Worksheet (1)

1- Choose the correct answer

1. (b) 2. (a) 3. (a).

2-Complete the following sentences using the words below:

- 1-Earth - axis 2-24 hours 3-East - The center of the sky Earth

3-Give reasons for:

1. Due to the rotation of Earth on its axis.
2. Because it doesn't receive sunlight.
3. Due to the rotation of Earth on its axis.

4-What happens if....?

1. Phenomenon of day and night will not happen.
2. This half has day.
3. Day and night phenomenon happens.

Worksheet (2)

1-Complete the following sentences

- 1-sun 2-jupiter 3-cycle

2-Match

- 1-b 2-c 3-a

3-Write the scientific term of each of the following:

1. Jupiter. 2. Day 3. Four seasons.

4-choose the correct answer :

- 1- a 2- a 3- c

Worksheet (3)

1-Complete

- | | | |
|------------------------|----------------------|-------------|
| 1. its axis east- west | 2. Shadows - the Sun | 3. sundial. |
| 4. the length angles | 5. Afternoon | 6. shorter |

2-Match

- 1-b 2-d 3-a

3-Put (√) or (×)

1. (X) 2. (×) 3. (√) 4. (×) 5. (×) 6. (×) 7. (√)

Worksheet (4)

1- Choose the correct answer

1. c 2. A 3. A 4. C 5. B 6. B 7.c

2-Correct the underlined word:

1. Stars 2. East. 3. An oval

Worksheet (5)

1-cross the odd word :

- 1-shadow 2- sun

2-write the scientific term :

- 1-Moon 2- new moon phase 3- full moon 4- crescent

2-Complete the following :

- 1-Phases 2- earth – sun 3- month 4- crescent

Worksheet (6)

1-Compete:

1- Universe 2- atmosphere 3- Galaxy

2-Write the scientific term of each of the following:

- | | | |
|----------------------|--------------------|---------------------|
| 1. The solar system. | 2. Copernicus. | 3. Albert Einstein. |
| 4. The Sun. | 5. Stars. | 6. Galaxy. |
| 7. The universe. | 8. The atmosphere. | |

3-Match

1-d 2-c 3-b

4-Write the scientific term :

1- Planetarium director 2- Planetarium

كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9

